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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/575,758	03/05/2007	Hiromichi Inaishi	1794-0182PUS1	5126
2292 7590 08/18/2009 BIRCH STEWART KOLASCH & BIRCH PO BOX 747 FALLS CHURCH, VA 22040-0747				
EXAMINER				
ALHUA, SAIF A				
ART UNIT		PAPER NUMBER		
2128				
NOTIFICATION DATE		DELIVERY MODE		
08/18/2009		ELECTRONIC		

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

mailroom@bskb.com

# Office Action Summary

**Application No.**

10/575,758

**Applicant(s)**

INAISHI ET AL.

**Examiner**

SAIF A. ALHIJA

**Art Unit**

2128

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 10 July 2009.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 25, 26, 28-36 and 42-46 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 25, 26, 28-36 and 42-46 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 13 April 2006 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_

Art Unit: 2128

**DETAILED ACTION**

1. Claims 25-26, 28-36, and 42-46 have been presented for examination.

Claims 1-24 have been cancelled in a preliminary amendment.

Claims 27 and 37-41 are newly cancelled.

**Response to Arguments**

2. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 10 July 2009 has been entered.

**NON-PRIOR ART ARGUMENTS**

- i) Following Applicants amendments the 101 rejections are withdrawn.

**PRIOR ART ARGUMENTS**

- ii) The Examiner has provided in additional reference in view of Applicants amendments to the claims.

**EXAMINERS NOTES**

- iii) Examiner has cited particular columns and line numbers in the references applied to the claims for the convenience of the applicant. Although the specified citations are representative of the teachings of the art and are applied to specific limitations within the individual claim, other passages and figures may apply as well. It is respectfully requested from the applicant in preparing responses, to fully consider the references in their entirety as potentially teaching all or part of the claimed invention, as well as the context of the passage as taught by the prior art or disclosed by the Examiner.

- iv) The Examiner respectfully requests, in the event the Applicants choose to amend or add new claims, that such claims and their limitations be directly mapped to the specification, which provides support for the subject matter. This will assist in expediting compact prosecution.

- v) Further, the Examiner respectfully encourages Applicants to direct the specificity of their response with regards to this office action to the broadest reasonable interpretation of the claims as presented. This will avoid issues that would delay prosecution such as limitations not explicitly presented in the claims, intended use

Art Unit: 2128

statements that carry no patentable weight, mere allegations of patentability, and novelty that is not clearly expressed.

vi) The Examiner also respectfully requests Applicants, in the event they choose to amend, to supply a clean version of the presented claims in addition to the marked-up copy in order to avoid potential inaccuracies with the version of the claims that would be examined.

**PRIORITY**

3. Acknowledgment is made of applicant's claim for foreign priority under 35 U.S.C. 119(a)-(d).

**Claim Rejections - 35 USC § 103**

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

4. Claims 25-26, 32-36, and 42-46 are rejected under 35 U.S.C. 102(b) as being clearly anticipated by

Geppert, "IC Design on the World Wide Web", hereafter Geppert in view of Kolman, U.S. Patent

Application No. 2005/0071715, hereafter Kolman.

Art Unit: 2128

**Regarding Claim 25:**

**The reference discloses** A printed circuit board design instruction support device that supports printed circuit board design between a circuit design and a printed circuit board design, said device comprising:

means for reading a circuit diagram designed by the circuit design; (**Geppert. Page 46, Figure 1, circuit CAD**)

means for storing design instruction information regarding the printed circuit board design and keywords, which are associated with said design instruction information and set corresponding to the type of items included in said circuit diagram; and (**Geppert. Page 46, Figure 1, circuit CAD. Figure 4, power analysis of circuit**)

means for extracting keywords corresponding to the type of items included in the read circuit diagram and automatically displaying design instruction information associated with the extracted keywords, when the circuit diagram is read by said reading means, wherein (**Geppert. Figure 5 component key words**)

**Geppert does not explicitly disclose** said design instruction is made up of design implementation information showing information whether or not a circuit board designed was performed according to a design instruction and printed circuit board design instruction support implementation information to which check result information of printed circuit board design instruction support is input, and

said storing means is database in which design instruction and said keywords are listed in a divided manner.

**However Kolman discloses** said design instruction is made up of design implementation information showing information whether or not a circuit board designed was performed according to a design instruction and printed circuit board design instruction support implementation information to which check result information of printed circuit board design instruction support is input, and (**Kolman. Figure 4, element 114 and Paragraph 40**)

said storing means is database in which design instruction and said keywords are listed in a divided manner. (**Kolman. Column 5, Lines 2-4, text list**)

**Geppert and Kolman are analogous art in circuit design.**

It would have been obvious to one of ordinary skill in the art at the time of the invention to utilize the graphical design information of **Kolman** with the design aspect of **Geppert** in order to provide a simpler and more user intuitive interface for graphical design and verification of an integrated circuit.

Art Unit: 2128

**Regarding Claim 26:**

**The reference discloses** The printed circuit board design instruction support device according to claim 25, wherein said displaying means displays keywords corresponding to the type of items included in the read circuit diagram when the circuit diagram is read by said reading means. **(Geppert. Page 48, bottom right, “including searches by key word.”)**

**See 103 rejection of claim 25.**

said displaying means simultaneously displays said design instruction, said keywords, said items, said design implementation information and said printed circuit board design instruction support implementation information in a list. **(Kolman. Column 5, Lines 2-4, text list with graphical representation)**

**Regarding Claim 32:**

**The reference discloses** The printed circuit board design instruction support device according to claim 26, said device comprising:

means for extracting items included in the circuit diagram read by said reading means; and **(Geppert. Page 46, Figure 1, circuit CAD. Figure 4, power analysis of circuit)**

means for associating the items that were extracted by said extraction means with said design instruction information via said keywords, wherein **(Geppert. Figure 5 component key words)**

said display means automatically displays correlation between the items associated by said association means on the circuit diagram. **(Geppert. Page 48, bottom right, “One of the most successful Web sites for design information is maintained by National Semiconductor Corp., Santa Clara, Calif. Visitors to the company's site have access to its complete portfolio of more than 27 000 parts-the equivalent of more than 40 000 pages of technical information.”)**

**Regarding Claim 33:**

**Geppert does not explicitly recite the term “highlighting” with respect to the claims recitation of** The printed circuit board design instruction support device according to claim 32, wherein

Art Unit: 2128

said reading means reads a printed circuit board diagram designed by the printed circuit board design, said device comprising:

means for selecting items or keywords displayed by said display means; and

means for highlighting regions of selected items on the printed circuit board diagram read by said reading means, which correspond to items selected by said selection means, by displaying in an enlarged manner when the items are selected by said selection means, and highlighting only items associated with the keywords on said printed circuit board diagram read by said reading means, which corresponds to keywords selected by said selection means, when the keywords are selected by said selection means in performing cross probe.

**However it would have been obvious to one of ordinary skill in the art at the time of the invention to highlight items that were of importance to design/verification/etc. This is seen in Geppert on Page 49, left middle, which recites “It is a cross-platform software suite for collaborative design on the Web, so that teams with members anywhere in the world may manage the design and configuration data associated with complex application-specific IC and custom chips.”**

In addition see paragraph 56 of Kolman which recites highlighting in view of the 103 rejection presented in claim 25.

**Regarding Claim 34:**

See rejection of claim 33.

**Regarding Claim 35:**

**Geppert does not explicitly recite the term “highlighting” with respect to the claims recitation of The printed circuit board design instruction support device according to any one of claims 33 and 34, said device comprising:**

means for executing macro that performs control such that said display means displays the entire circuit diagram read by said reading means before items are highlighted by said highlight means, macro that performs control such that said display means displays highlighted items in an enlarged manner after the items were highlighted by said highlight means, or macro that performs control such that said display means displays the entire

Art Unit: 2128

circuit diagram read by said reading means before items are highlighted by said highlight means and said display means displays highlighted items in an enlarged manner after the items were highlighted by said highlight means.

However it would have been obvious to one of ordinary skill in the art at the time of the invention to highlight items that were of importance to design/verification/etc. This is seen in Geppert on Page 49, left middle, which recites “It is a cross-platform software suite for collaborative design on the Web, so that teams with members anywhere in the world may manage the design and configuration data associated with complex application-specific IC and custom chips.” See also Figure 1 of Geppert with respect to verification.

In addition see paragraph 56 of Kolman which recites highlighting in view of the 103 rejection presented in claim 25.

**Regarding Claim 36:**

The reference discloses The printed circuit board design instruction support device according to any one of claims 25, 26, 28, 29, 30, 31, 32, 33 and 34, said device comprising:

means for managing whether or not a printed circuit board design was performed according to said design instruction information, by accepting the input of a result in which said design instruction information was reflected on the printed circuit board design and accepting an agreement to said result, wherein (Geppert, Figure 1, verification)

See 103 rejection of claim 25.

said result is identifiably displayed on a display screen while the color and/or brightness of said items are changed and; (Kolman, Paragraph 56.)

the device is capable of simultaneously displaying areas to be checked on both of a circuit diagram and a printed circuit board layout diagram for each circuit part. (Kolman, Column 5, Lines 2-4, text list with graphical representation)

**Regarding Claim 42:**

The reference discloses A program for allowing a computer to function as the printed circuit board design instruction support device according to any one of claims 25, 26, 28, 29, 30, 31, 32, 33 and 34. (Geppert, Page 47, left bottom, client/server)



**Regarding Claim 43:**

**The reference discloses** A program for allowing a computer to function as the printed circuit board design instruction support device according to claim 35. **(Geppert. Page 47, left bottom, client/server)**

**Regarding Claim 44:**

**The reference discloses** A printed circuit board design instruction support method in which printed circuit board design is supported between a circuit design and a printed circuit board design, said method comprising the steps of:

Using a computer to execute the following steps;

reading a circuit diagram designed by the circuit design; **(Geppert. Page 46, Figure 1, circuit CAD)**

storing design instruction information regarding the printed circuit board design and keywords, which are associated with said design instruction information and set corresponding to the type of items included in said circuit diagram; and **(Geppert. Page 46, Figure 1, circuit CAD. Figure 4, power analysis of circuit)**

extracting keywords corresponding to the type of items included in the read circuit design and displaying design instruction information associated with the extracted keywords, when the circuit design is read by said reading step, wherein **(Geppert. Figure 5 component key words)**

said design instruction information is made up of design implementation information showing information whether or not a circuit board designed was performed according to a design instruction and printed circuit board design instruction support implementation information to which check result information of printed circuit board design support implementation is input, and **(See rejection of claim 25)**

said storing step is listing design instruction and said keywords in a divided manner. **(See rejection of claim 25)**

**Regarding Claim 45:**

**The reference discloses** A program for allowing a computer to function as the printed circuit board design instruction support device according to claim 44. **(Geppert. Page 47, left bottom, client/server)**

**Regarding Claim 46:**

**The reference discloses** A computer-readable recording medium recording the program according to claim 42. (Geppert. Page 47, left bottom, client/server)

5. **Claim(s) 28-31** are rejected under 35 U.S.C. 103(a) as being unpatentable over **Geppert** in view of **Kolman** further in view of **Kundert**, “Power Supply Noise Reduction”, hereafter **Kundert**.

**Regarding Claim 28:**

**Geppert and Kolman do not explicitly disclose** The printed circuit board design instruction support device according to claim 25, said device comprising:

means for extracting damping resistances including the attribute of series connection from the circuit diagram read by said reading means, judging whether or not the resistances are damping resistances by discriminating whether or not items connected to the pins of the extracted resistances are IC's and automatically extracting damping resistances that are correctly arranged based on a design rule in arranging and target IC's resistances from the circuit diagram read by said reading means.

**However Kundert discloses** means for extracting damping resistances including the attribute of series connection from the circuit diagram read by said reading means, judging whether or not the resistances are damping resistances by discriminating whether or not items connected to the pins of the extracted resistances are IC's and automatically extracting damping resistances that are correctly arranged based on a design rule in arranging and target IC's resistances from the circuit diagram read by said reading means. (**Kundert. Figure 8 and Section 6**)

**Geppert, Kolman, and Kundert are analogous art in circuit design.**

It would have been obvious to one of ordinary skill in the art at the time of the invention to allow for the design of a damping resistance in the IC and its corresponding wiring information as per **Kundert** with the design of IC's in **Geppert and Kolman** since damping resistors are a well known and common way to reduce ringing and noise peaking in integrated circuit designs. (**Kundert, Section 6**)

**Regarding Claim 29:**

**Geppert and Kolman do not explicitly disclose** The printed circuit board design instruction support device according to claim 25, said device comprising:

means for extracting capacitors which are connected to a power source and ground from the circuit diagram read by said reading means, judging whether or not said capacitors are bypass capacitors by discriminating whether or not the extracted capacitors are capacitors to which an IC is connected to the power source side and automatically extracting bypass capacitors and target IC's of the capacitors from the circuit diagram read by said reading means.

**However Kundert discloses** means for extracting capacitors which are connected to a power source and ground from the circuit diagram read by said reading means, judging whether or not said capacitors are bypass capacitors by discriminating whether or not the extracted capacitors are capacitors to which an IC is connected to the power source side and automatically extracting bypass capacitors and target IC's of the capacitors from the circuit diagram read by said reading means. **(Kundert. Figure 8 and Section 6)**

**Geppert, Kolman, and Kundert are analogous art in circuit design.**

It would have been obvious to one of ordinary skill in the art at the time of the invention to allow for the design of a bypass capacitor in the IC and its corresponding wiring information as per **Kundert** with the design of IC's in **Geppert and Kolman** since bypass capacitors are a well known and common way to reduce output impedance in integrated circuit designs. **(See Kundert, Page 5, last paragraph)**

**Regarding Claim 30:**

**Geppert and Kolman do not explicitly disclose** The printed circuit board design instruction support device according to claim 29, wherein

said extraction means when the extracted capacitors are connected to a plurality of ICs, extracts an IC having the shortest connecting distance out of the ICs.

**However Kundert discloses** said extraction means when the extracted capacitors are connected to a plurality of ICs, extracts an IC having the shortest connecting distance out of the ICs. **(Kundert. Figure 8 and Section 6)**

Art Unit: 2128

**Geppert, Kolman, and Kundert are analogous art in circuit design.**

It would have been obvious to one of ordinary skill in the art at the time of the invention to allow for the design of a bypass capacitor in the IC and its corresponding wiring information as per **Kundert** with the design of IC's in **Geppert** and **Kolman** since bypass capacitors are a well known and common way to reduce output impedance in integrated circuit designs. (See **Kundert, Page 5, last paragraph**)

**Regarding Claim 31:**

**Geppert and Kolman do not explicitly disclose** The printed circuit board design instruction support device according to claim 29, wherein said extraction means extracts bypass capacitors, the target ICs of the capacitors, and the information of wiring connecting the both parts from the circuit diagram read by said reading means.

**However Kundert discloses** The printed circuit board design instruction support device according to claim 29, wherein said extraction means extracts bypass capacitors, the target ICs of the capacitors, and the information of wiring connecting the both parts from the circuit diagram read by said reading means. (**Kundert, Figure 8 and**

**Section 6)**

**Geppert, Kolman, and Kundert are analogous art in circuit design.**

It would have been obvious to one of ordinary skill in the art at the time of the invention to allow for the design of a bypass capacitor in the IC and its corresponding wiring information as per **Kundert** with the design of IC's in **Geppert** and **Kolman** since bypass capacitors are a well known and common way to reduce output impedance in integrated circuit designs. (See **Kundert, Page 5, last paragraph**)

**Conclusion**

6. All Claims are rejected.
7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to SAIF A. ALHIJA whose telephone number is (571)272-8635. The examiner can normally be reached on M-F, 11:00-7:30.

Art Unit: 2128

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kamini Shah can be reached on (571) 272-2279. The fax phone number for the organization where this application or proceeding is assigned is (571) 273-8300. *Informal or draft communication, please label PROPOSED or DRAFT*, can be additionally sent to the Examiners fax phone number, (571) 273-8635.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

SAA

August 12, 2009

/Michael D Masinick/

Primary Examiner, Art Unit 2128